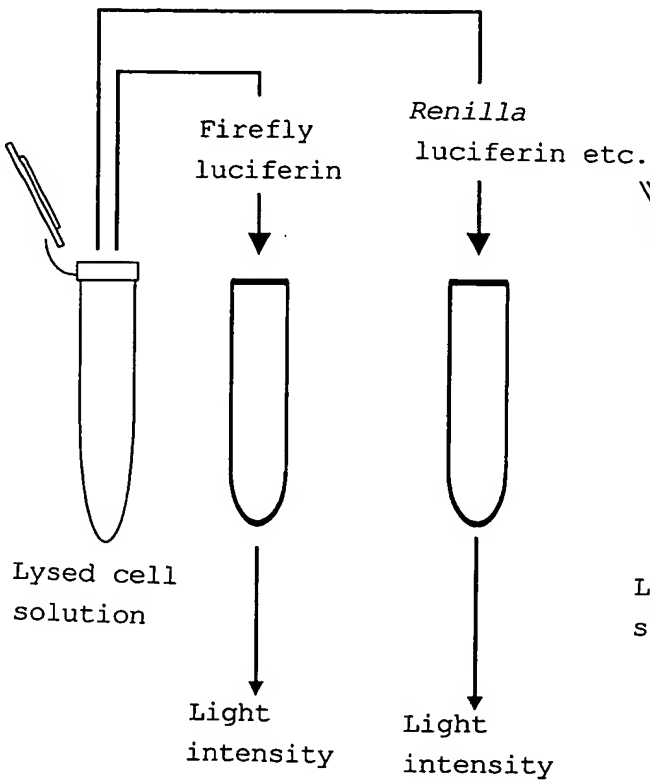


1 / 2 2  
Fig. 1

Conventional method:

two transcription activities are each independently measured as light intensity.

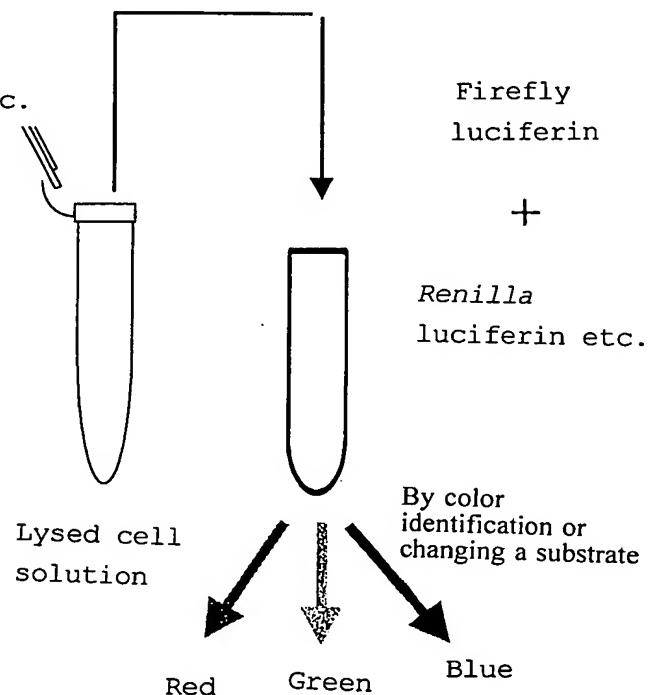


Measurement of  
transcription activity

Standardization of  
transcription activity

Method of the invention:

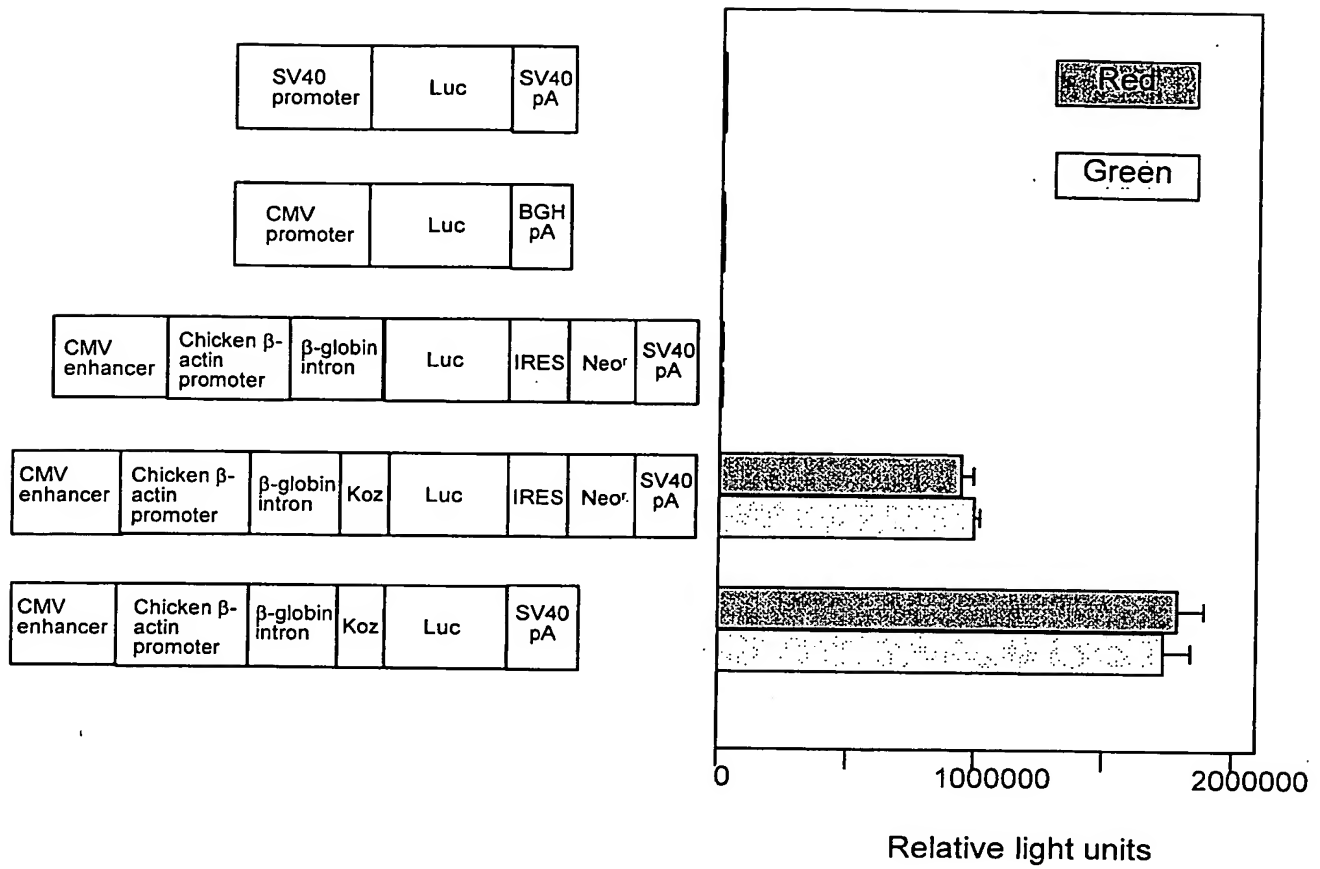
three transcription activities are detected by three colors, red, green and blue lights, and measured by identifying each color of the light.



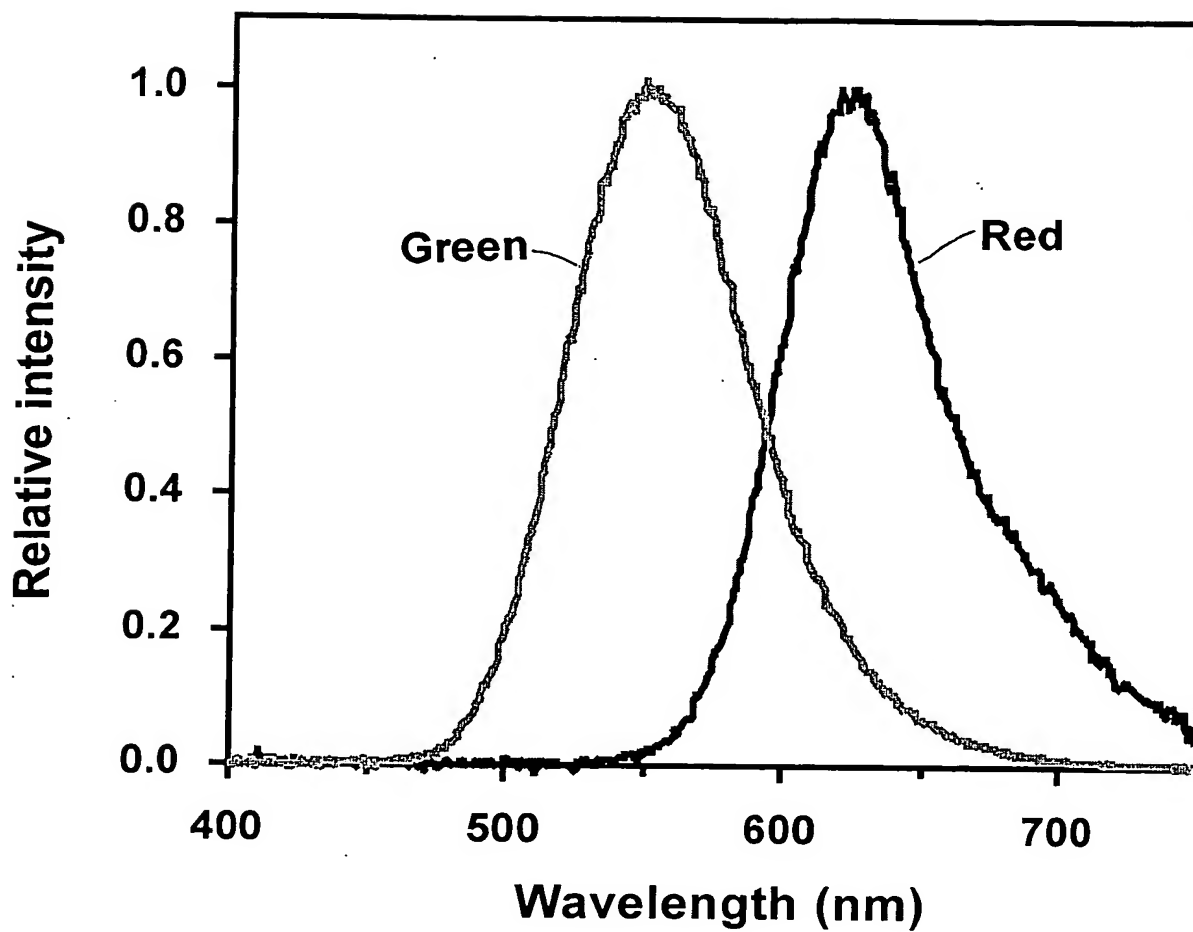
Simultaneous measurement  
of transcription activity

Simultaneous standardization  
of transcription activity

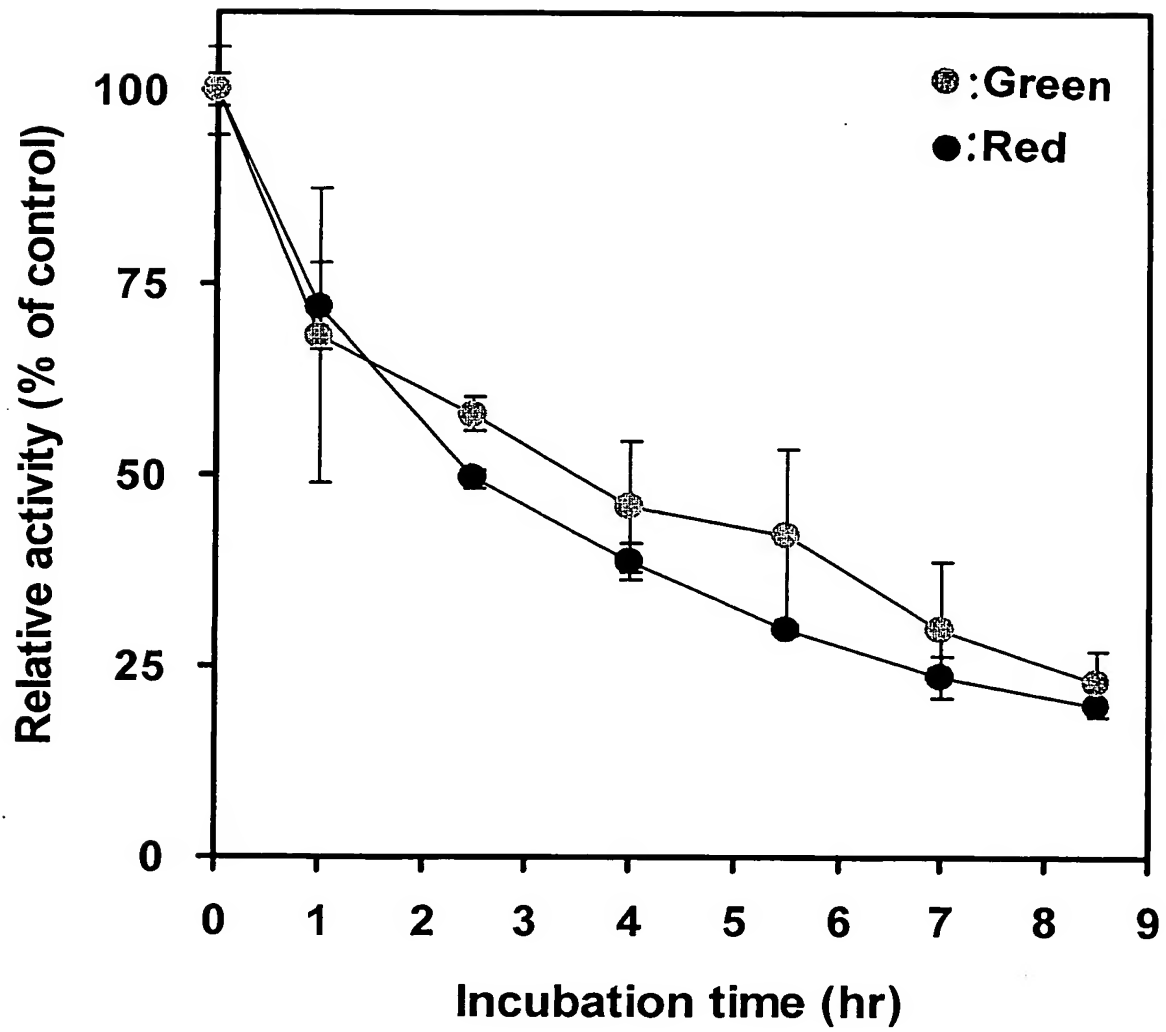
2 / 2 2  
Fig. 2



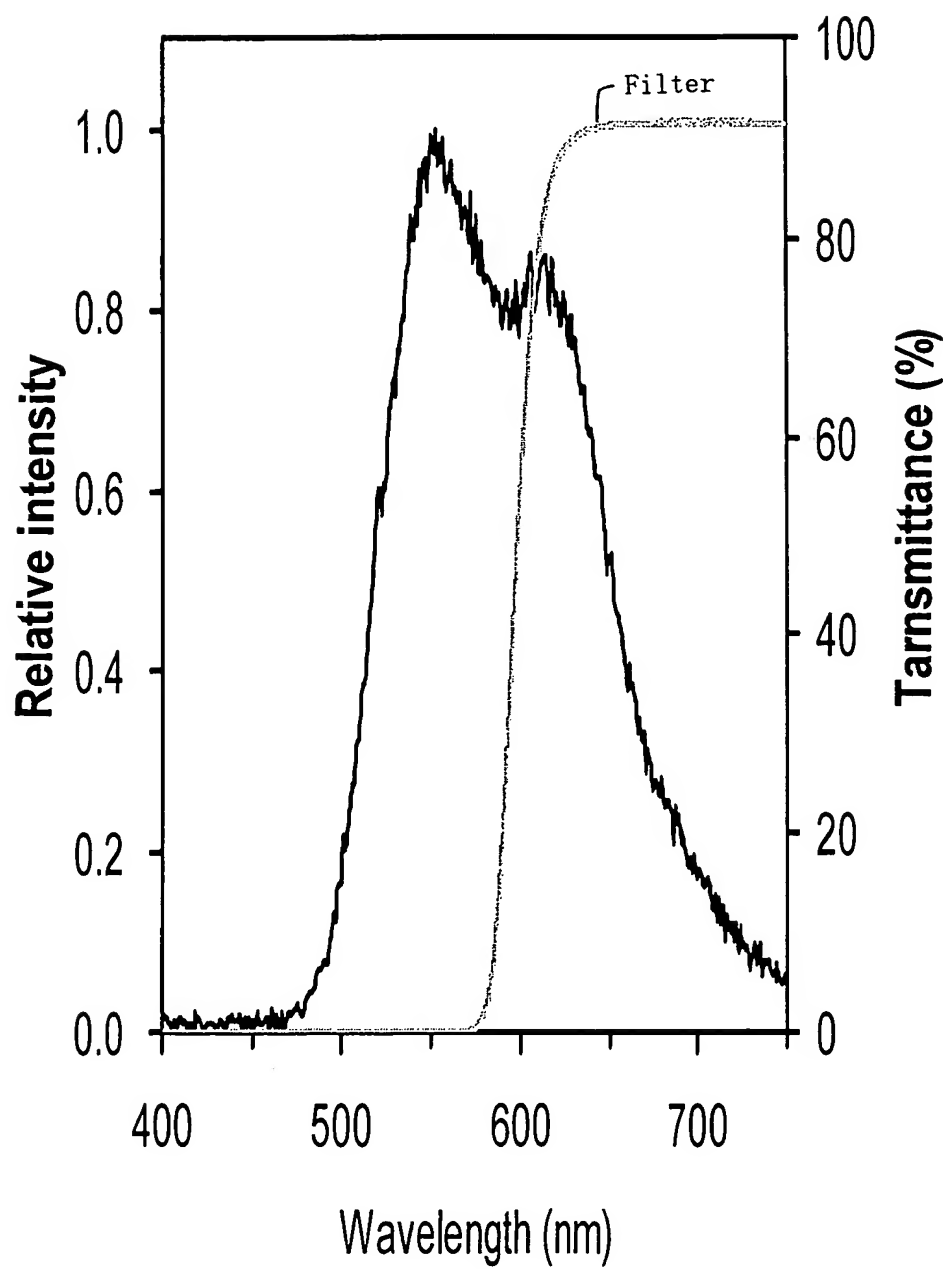
3 / 2 2  
F i g . 3



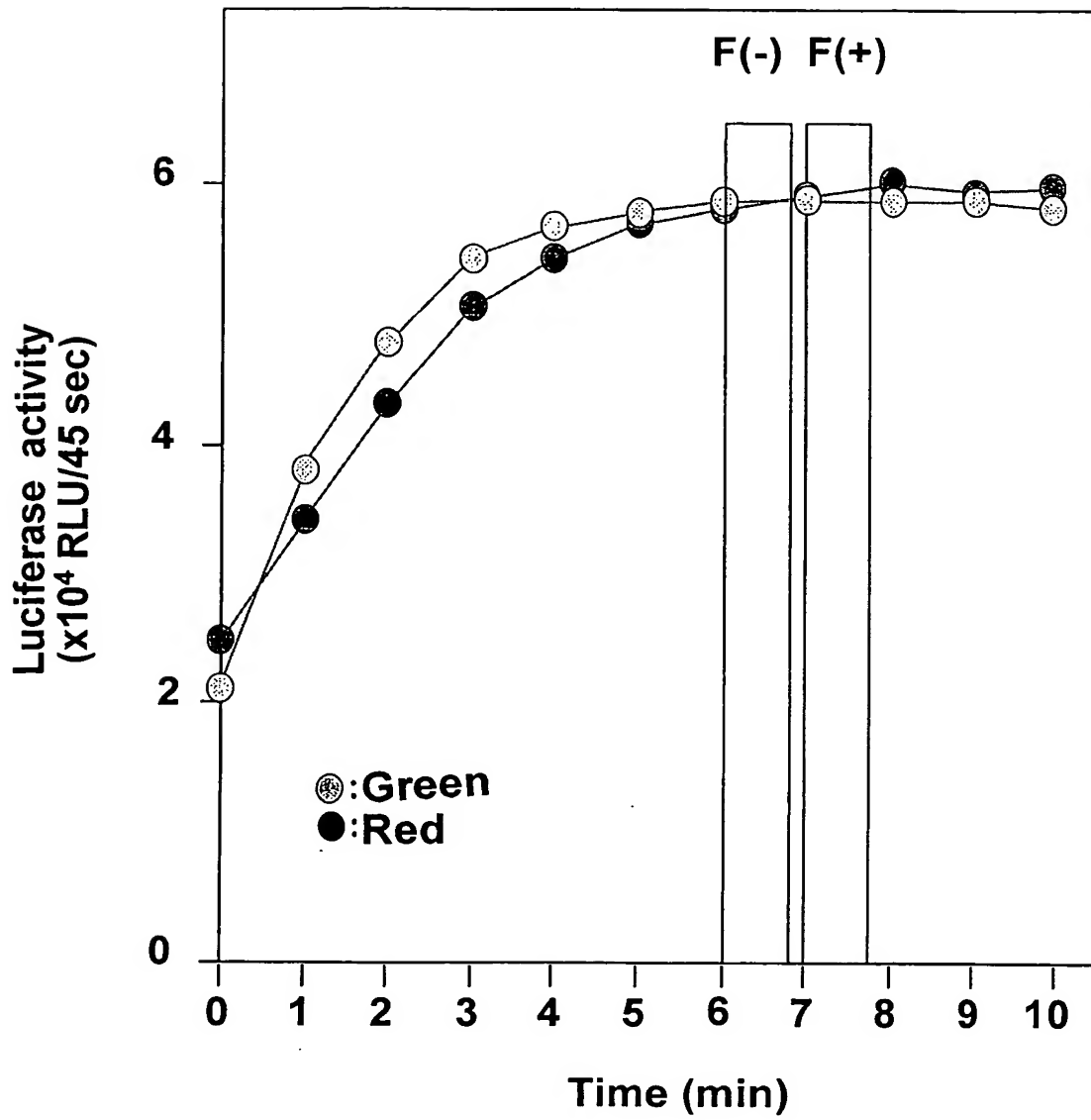
4 / 2 2  
F i g . 4



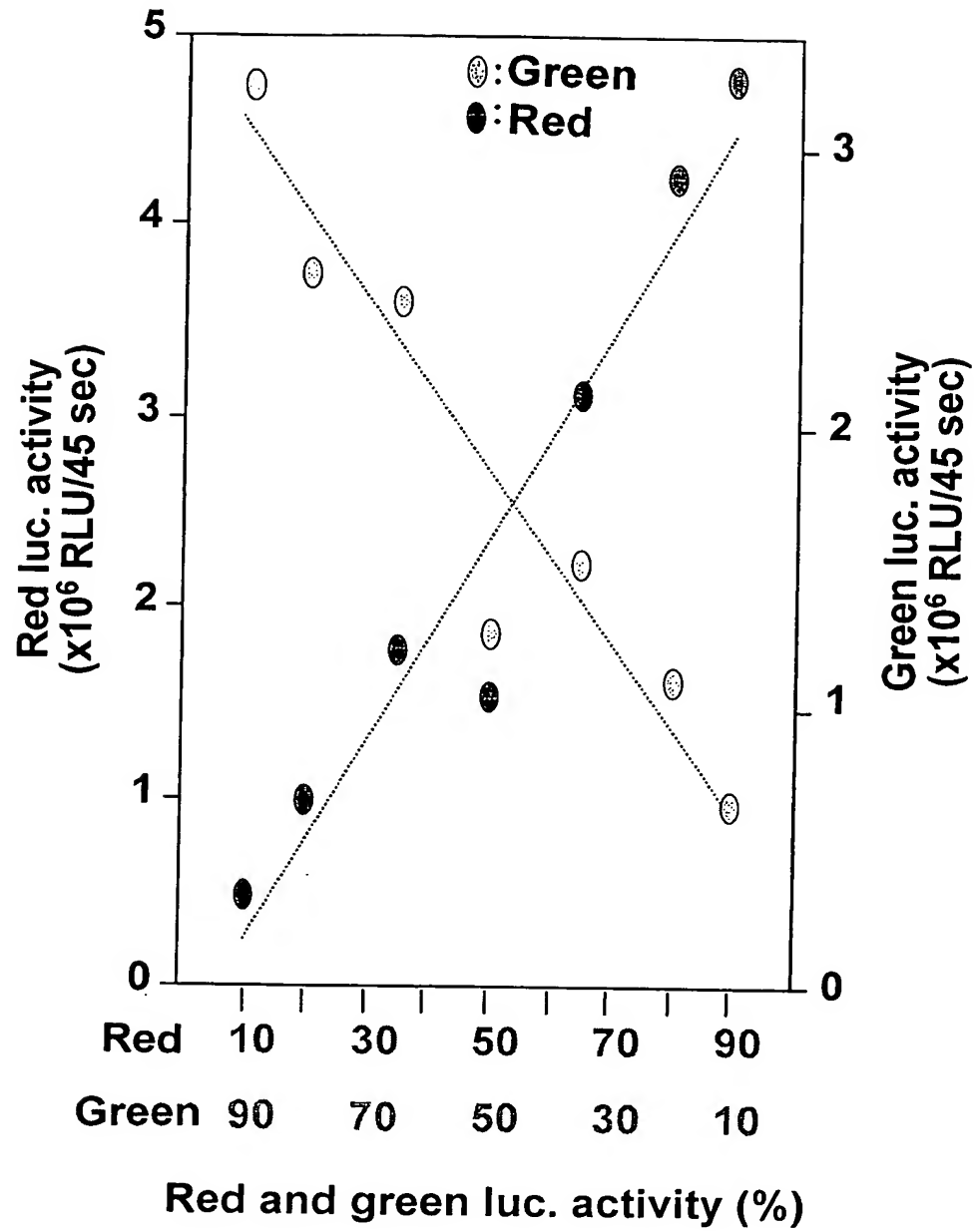
5 / 2 2  
Fig. 5



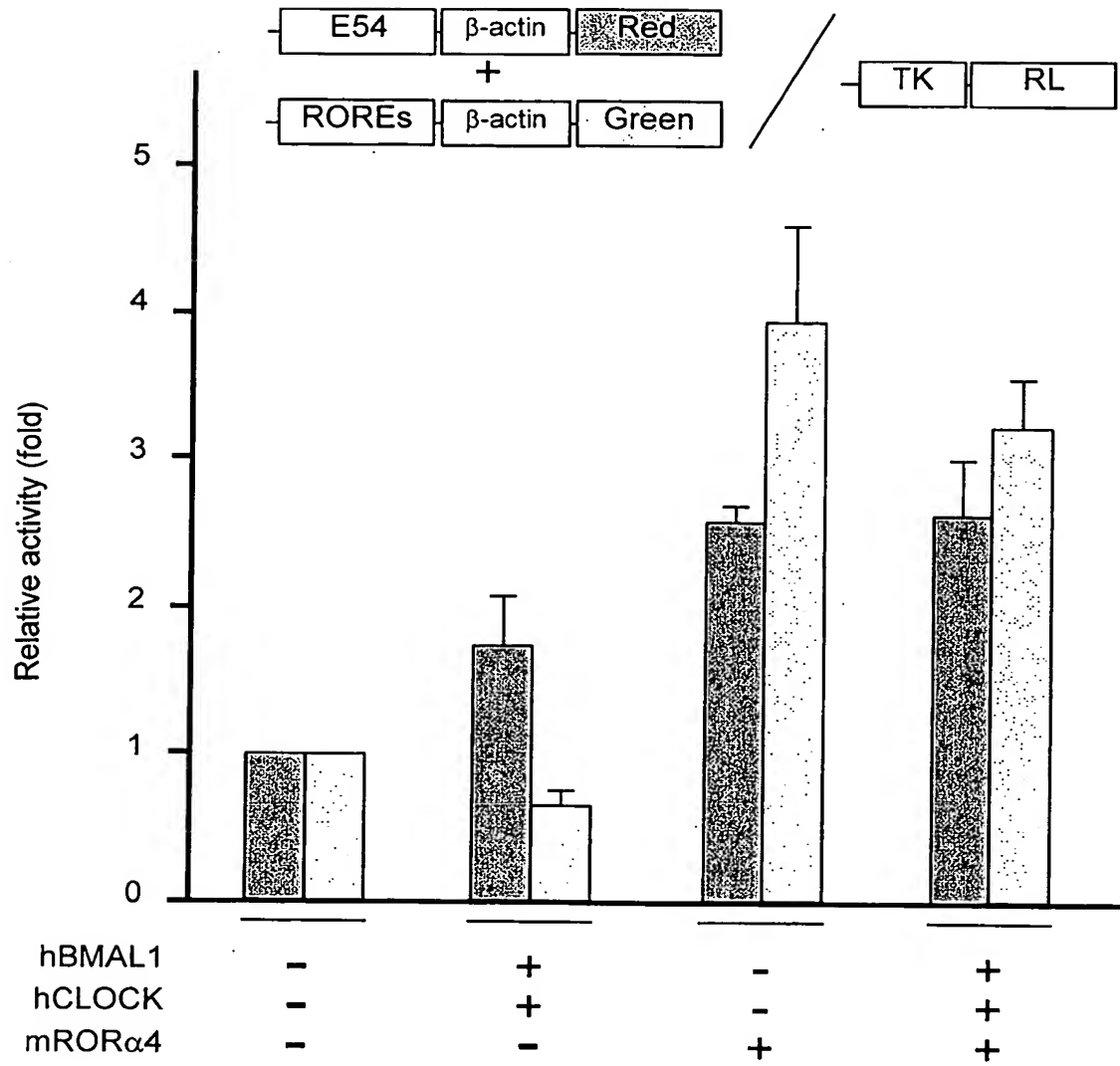
6 / 2 2  
Fig. 6



7 / 2 2  
F i g . 7

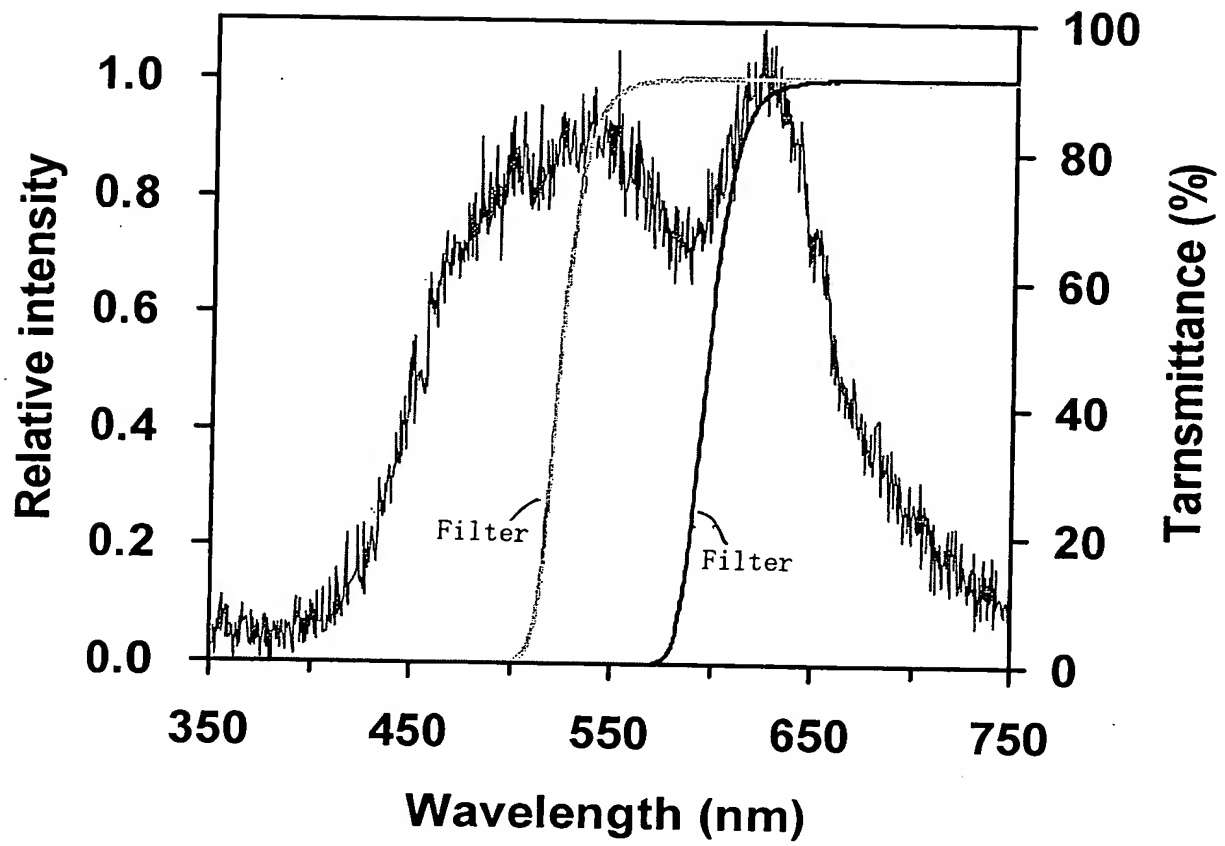


8 / 22  
Fig. 8

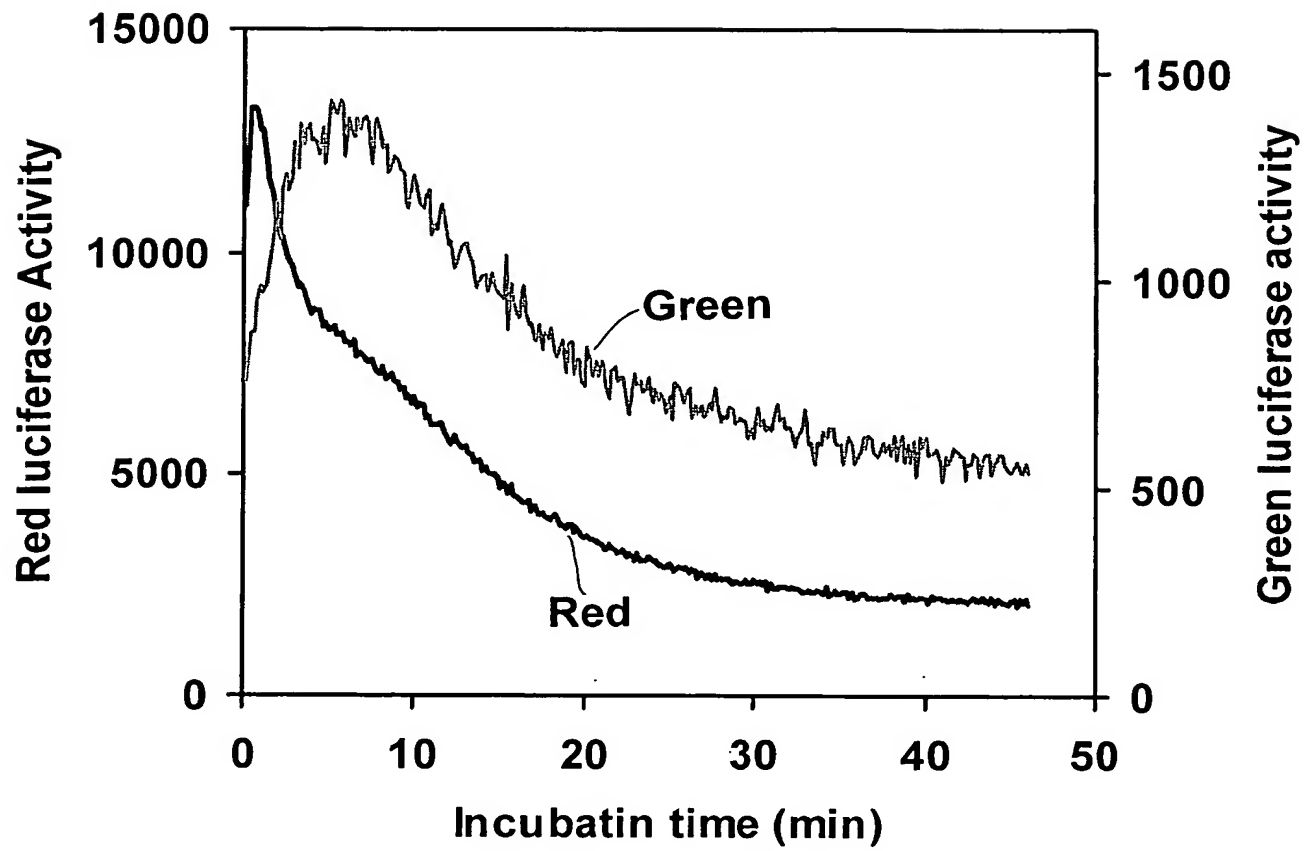




9 / 2 2  
Fig. 9



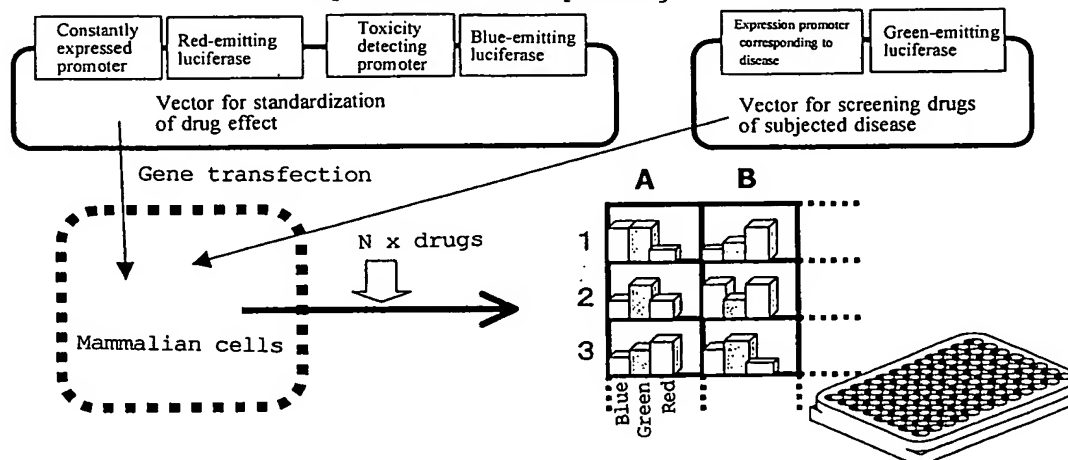
10/22  
Fig. 10



11/22  
Fig. 11

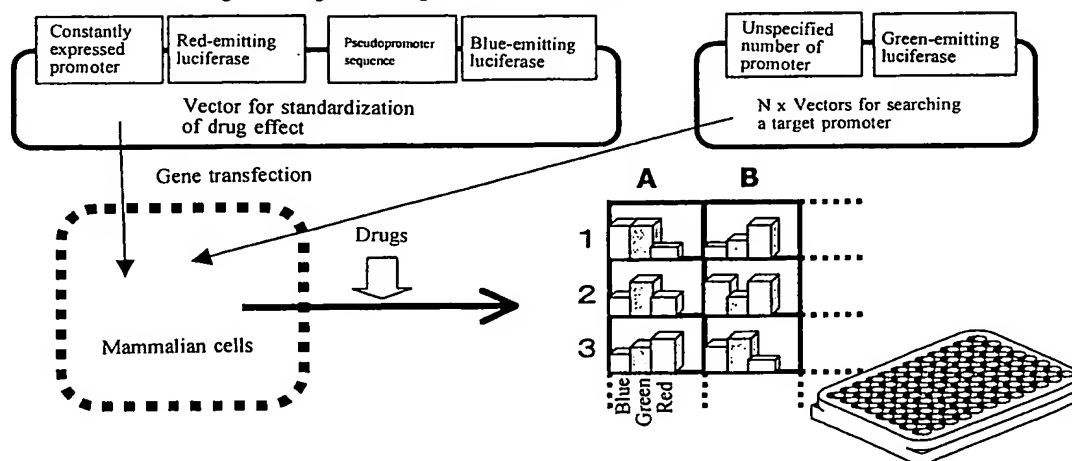
Many specimens are exhaustively analyzed in a primary screening.

Example 1: Screening for drugs which induce a gene expression corresponding to a disease



For example, in this primary screening, the red-emitting luciferase is a control, the blue-emitting luciferase detects the toxicity, and the green-emitting luciferase detects the drug effect. Therefore, it can be evaluated that the drug in an A1 column has the effect for the disease but works lethally and the drug in an A2 column has the similar effect to the A1 and is safer than the A1.

Example 2: Screening for gene expression regions which a certain drug affects

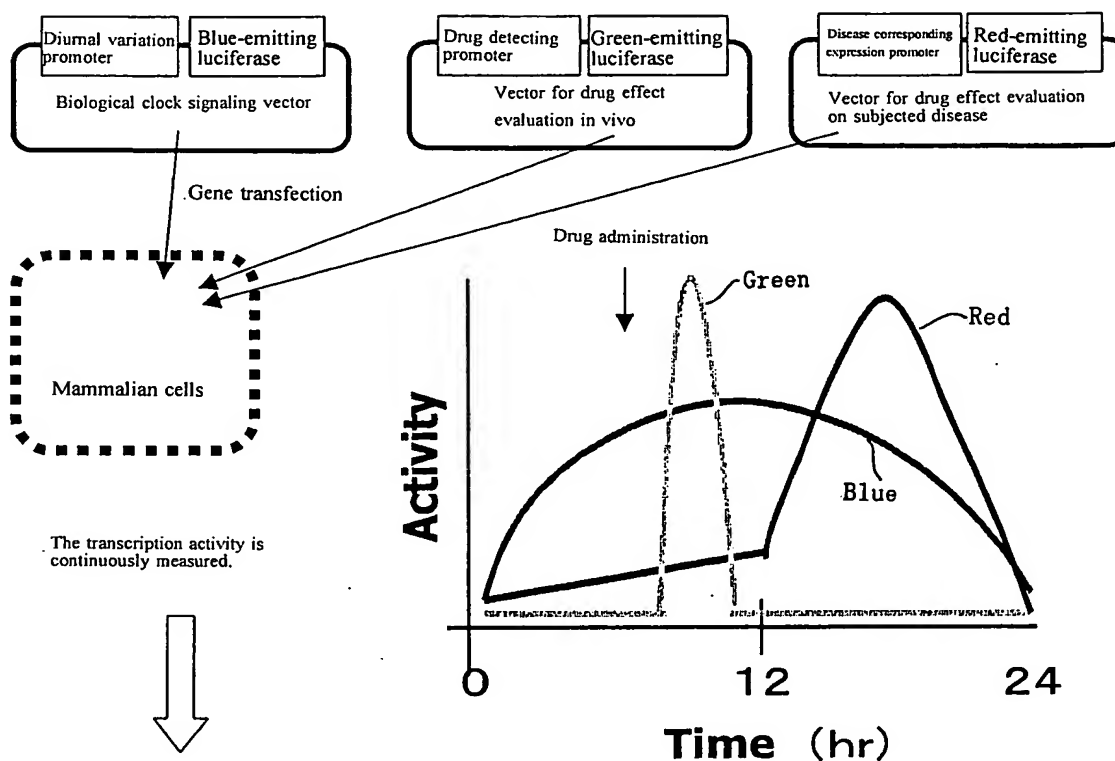


For example, in this primary screening, the red-emitting luciferase is a control, a pseudopromoter sequence is inserted in the blue-emitting luciferase, and the green-emitting luciferase reports a promoter with unknown function obtained from a promoter sequence library and evaluates a non-specific effect. A target site of the drug whose promoter target is not determined is screened. Therefore, for a certain drug, the promoter selected in an A1 column has the effect at first glance but is likely to be non-specific when determined by the blue, whereas the promoter in an A2 column has the same effect as that in the A1 column and is not non-specific so long as determined by the blue.

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Fig. 12

In the secondary screening, an individual event is evaluated.

Example: Drug discovery based on diurnal variation of body



For example, in the secondary screening, it can be evaluated whether the drug having an effect on the subjected disease works effectively for a patient or when the drug is administered is important. The blue-emitting luciferase is a promoter representing a diurnal change of a human biological clock and its maximum corresponds to daytime 12 hours. The green-emitting luciferase and the red-emitting luciferase suppose a transient effect of the drug and a promoter region where the drug works finally, respectively. It is found that when the drug is administered at 6 o'clock in the morning shown by the blue, the green which represents the effect on the drug transiently increased after one hour due to a shock thereof, but the effect thereof disappears in several hours, the effect of the drug is gradually increased around a noon. From this result, the drug discovery which makes a design of an administration time, the influence and effect of the drug suitable becomes possible.

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Fig. 13

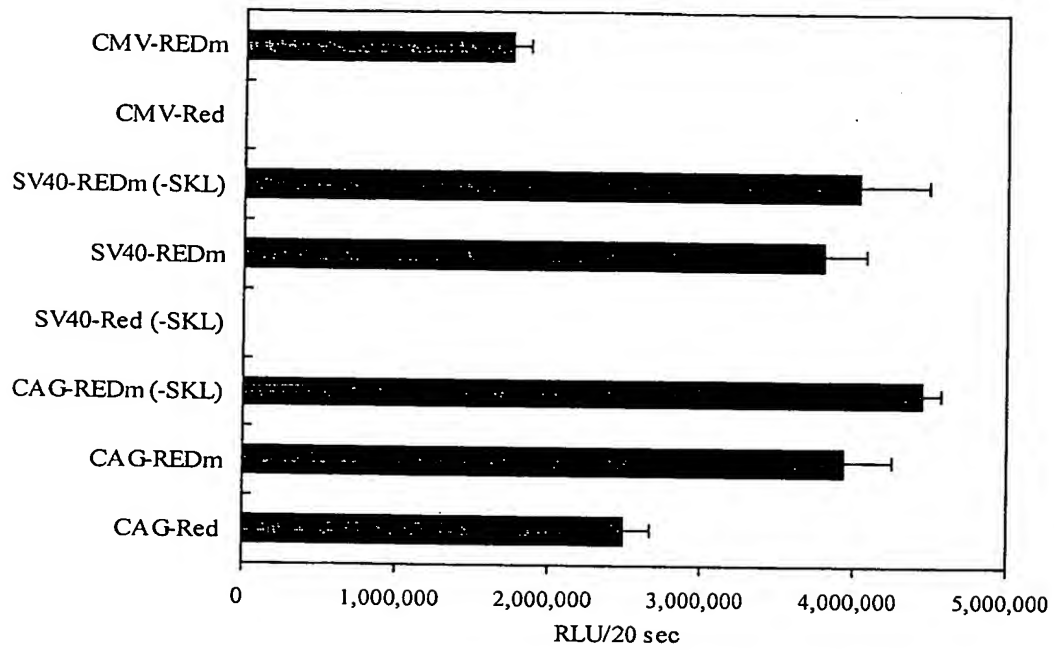
|       |      |   |      |
|-------|------|---|------|
| RedWT | 1    | ATGGAAGAAGA-AACATGTGAATGG-SATCG-CCTCG-SATCT-CTTTT-CCTGGCACA | 60   |
| REDm  | 1    | ATGGAAGAAGA-AACATGTGAATGG-SATCG-CCTCG-SATCT-CTTTT-CCTGGCACA | 60   |
| RedWT | 61   | GC-EGACTACATTTATCATTCATTTATAAATAATCTATATACGACGGAATATC       | 120  |
| REDm  | 61   | GC-EGACTACATTTATCATTCATTTATAAATAATCTATATACGACGGAATATC       | 120  |
| RedWT | 121  | GATGCCCATACCAATGAGTATATCATATGCTCAATATTTGAAACAGTGGCGGTG      | 180  |
| REDm  | 121  | GATGCCCATACCAATGAGTATATCATATGCTCAATATTTGAAACAGTGGCGGTG      | 180  |
| RedWT | 181  | GCACTTAGCTTAGAATATATGGCTTGGATCAATACAAATTTTGGCAATTTGCAGTAA   | 240  |
| REDm  | 181  | GCACTTAGCTTAGAATATATGGCTTGGATCAATACAAATTTTGGCAATTTGCAGTAA   | 240  |
| RedWT | 241  | AACAACATACACTTTTGGCCCTTTATCTGCTTTATACCAAGCAATCAATGGCA       | 300  |
| REDm  | 241  | AACAACATACACTTTTGGCCCTTTATCTGCTTTATACCAAGCAATCAATGGCA       | 300  |
| RedWT | 301  | ACATCAAAATGATATGTACACAGAAAGGGAGATGATGGCCATTTGAAATTTGCAACCA  | 360  |
| REDm  | 301  | ACATCAAAATGATATGTACACAGAAAGGGAGATGATGGCCATTTGAAATTTGCAACCA  | 360  |
| RedWT | 361  | TGCTTATGTTTGTTCAGAAATCACTCCATTATTTGAAAGTACAAACATCTA         | 420  |
| REDm  | 361  | TGCTTATGTTTGTTCAGAAATCACTCCATTATTTGAAAGTACAAACATCTA         | 420  |
| RedWT | 421  | GATTTCTTAAAGATATAGTATATGAAATGTACCAATCAATGGCGTGAATGG         | 480  |
| REDm  | 421  | GATTTCTTAAAGATATAGTATATGAAATGTACCAATCAATGGCGTGAATGG         | 480  |
| RedWT | 481  | GTATTTAGCTTTTGTTCAGGATATGATCAGCGTTTATCCAGTGAATTTACCCCA      | 540  |
| REDm  | 481  | GTATTTAGCTTTTGTTCAGGATATGATCAGCGTTTATCCAGTGAATTTACCCCA      | 540  |
| RedWT | 541  | AAAGAGTTTGATCCCTGGAAAGAACCGCATTTATATGACATCTCTGGAACACGGA     | 600  |
| REDm  | 541  | AAAGAGTTTGATCCCTGGAAAGAACCGCATTTATATGACATCTCTGGAACACGGA     | 600  |
| RedWT | 601  | TTGCCTAAAGGGTATATAGCCATAGAGATATACATATAGATTCTGCTCAAGCAGT     | 660  |
| REDm  | 601  | TTGCCTAAAGGGTATATAGCCATAGAGATATACATATAGATTCTGCTCAAGCAGT     | 660  |
| RedWT | 661  | SATCCCATCTAGGACCTGATTTGCTCCAGATACATCATTTTGGCATTTGCCCTTTG    | 720  |
| REDm  | 661  | SATCCCATCTAGGACCTGATTTGCTCCAGATACATCATTTTGGCATTTGCCCTTTG    | 720  |
| RedWT | 721  | CATCATGCTTTGGACTGTTTACTGCACTAGCTTACTTTCCAGTGGACTTAAGATTTA   | 780  |
| REDm  | 721  | CATCATGCTTTGGACTGTTTACTGCACTAGCTTACTTTCCAGTGGACTTAAGATTTA   | 780  |
| RedWT | 781  | ATGGTGAAGAAATTTGAGGGCGAATCTCTCTTAAACCATAAATAATACAAATCGCT    | 840  |
| REDm  | 781  | ATGGTGAAGAAATTTGAGGGCGAATCTCTCTTAAACCATAAATAATACAAATCGCT    | 840  |
| RedWT | 841  | TCTATTTAGTTTCTCTCTCAATATGGTATATTTGGCAAAAGTCAATTTTATGAA      | 900  |
| REDm  | 841  | TCTATTTAGTTTCTCTCTCAATATGGTATATTTGGCAAAAGTCAATTTTATGAA      | 900  |
| RedWT | 901  | TACAATTTATCAGGCTTACGAAATTTCTTGTGGAGGGTCTCTTTAGGAGAGATATC    | 960  |
| REDm  | 901  | TACAATTTATCAGGCTTACGAAATTTCTTGTGGAGGGTCTCTTTAGGAGAGATATC    | 960  |
| RedWT | 961  | GCAATTAAGTAAAGAGATGAAATGATGATCTCAAGGATATGGATTACCA           | 1020 |
| REDm  | 961  | GCAATTAAGTAAAGAGATGAAATGATGATCTCAAGGATATGGATTACCA           | 1020 |
| RedWT | 1021 | GAAACCTGAGCGCTTATATCTTACCCCAATGATGAGAACTTAAAGAGGCTGATAT     | 1080 |
| REDm  | 1021 | GAAACCTGAGCGCTTATATCTTACCCCAATGATGAGAACTTAAAGAGGCTGATAT     | 1080 |
| RedWT | 1081 | GGAGGCTTATGCTTATGTTTAAATTAAGTTTATGATCAATTAAGTGAAGGCTTA      | 1140 |
| REDm  | 1081 | GGAGGCTTATGCTTATGTTTAAATTAAGTTTATGATCAATTAAGTGAAGGCTTA      | 1140 |
| RedWT | 1141 | GGACCAAGAGAAAGGGCGAATATGCTTCAATAGTCAATGCTTATGAAAGGATATAC    | 1200 |
| REDm  | 1141 | GGACCAAGAGAAAGGGCGAATATGCTTCAATAGTCAATGCTTATGAAAGGATATAC    | 1200 |
| RedWT | 1201 | AACAATCTCAAGCACTCTGATGCTTTGACAAATGATGGCTTCAATCTGGGAT        | 1260 |
| REDm  | 1201 | AACAATCTCAAGCACTCTGATGCTTTGACAAATGATGGCTTCAATCTGGGAT        | 1260 |
| RedWT | 1261 | CTTGGATATACGACGAGACAGATTTATCTATGTTTATGATGATGAAAGAGTTAT      | 1320 |
| REDm  | 1261 | CTTGGATATACGACGAGACAGATTTATCTATGTTTATGATGATGAAAGAGTTAT      | 1320 |
| RedWT | 1321 | AAATTAAGGATATCAGGTTGCGCTGCTGAAATGGAAATCTGCTTTTCAATATCA      | 1380 |
| REDm  | 1321 | AAATTAAGGATATCAGGTTGCGCTGCTGAAATGGAAATCTGCTTTTCAATATCA      | 1380 |
| RedWT | 1381 | AAATTTCTGATGCTGGGTTTATGGAATTCGACGAAATTTGGTGGTCAATTTCTTCC    | 1440 |
| REDm  | 1381 | AAATTTCTGATGCTGGGTTTATGGAATTCGACGAAATTTGGTGGTCAATTTCTTCC    | 1440 |
| RedWT | 1441 | GCTGTGTTTGTGTTTGGCTTGGTAAAGATGACCGAAGAGATTTAGGATTATATT      | 1500 |
| REDm  | 1441 | GCTGTGTTTGTGTTTGGCTTGGTAAAGATGACCGAAGAGATTTAGGATTATATT      | 1500 |
| RedWT | 1501 | GCGAGCTTATACAGCACTTATGAGGCGGTTCTTATTTATAGATAGATTT           | 1560 |
| REDm  | 1501 | GCGAGCTTATACAGCACTTATGAGGCGGTTCTTATTTATAGATAGATTT           | 1560 |
| RedWT | 1561 | CCAAAGGCCCAACAGGTAATATGAGAAACGAATCTCTGCAATTTTGGCCCGGAA      | 1620 |
| REDm  | 1561 | CCAAAGGCCCAACAGGTAATATGAGAAACGAATCTCTGCAATTTTGGCCCGGAA      | 1620 |
| RedWT | 1621 | CAGGCATATCAATTTTAA  | 1641 |
| REDm  | 1621 | CAGGCATATCAATTTTAA  | 1641 |

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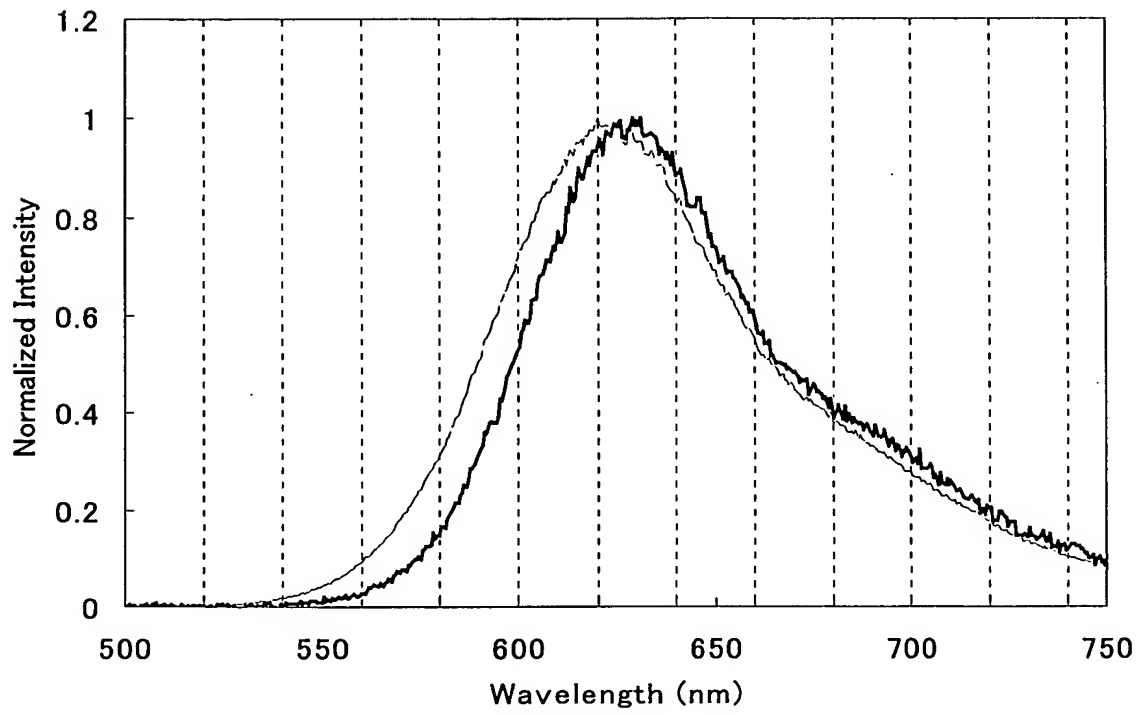
Fig. 14

|               |      |  |      |
|---------------|------|--|------|
| REDm          | 1    | ATGGAAGAAGAACACGTGAATGGATCGCCTGGGATCTGGTGTTCGCGGCACA     | 60   |
| WO2003-016839 | 1    | ATGGAAGAAGAACACGTGAATGGATCGCCTGGGATCTGGTGTTCGCGGCACA     | 60   |
| REDm          | 61   | GCCTGGCTCAGCTGTACAGTCCTGTATAAATATCTACATCACACACGGATATATC  | 120  |
| WO2003-016839 | 61   | GCCTGGCTCAGCTGTACAGTCCTGTATAAATATCTACATCACACACGGATATATC  | 120  |
| REDm          | 121  | GACGCCCAACCAACGAGGTATCTCTATGCTCAGATTTTAAACCAAGTGGCCGCTG  | 180  |
| WO2003-016839 | 121  | GACGCCCAACCAACGAGGTATCTCTATGCTCAGATTTTAAACCAAGTGGCCGCTG  | 180  |
| REDm          | 181  | GCCTGAGCTGGAGAAGTATGGCTGGATCACAAACATGGTGGCCATTTGACGAG    | 240  |
| WO2003-016839 | 181  | GCCTGAGCTGGAGAAGTATGGCTGGATCACAAACATGGTGGCCATTTGACGAG    | 240  |
| REDm          | 241  | AACAACATCACTTTTCGGCCCTGTGATCTGCTGCCCTATCCAGGATTTCAATGGC  | 300  |
| WO2003-016839 | 241  | AACAACATCACTTTTCGGCCCTGTGATCTGCTGCCCTATCCAGGATTTCAATGGC  | 300  |
| REDm          | 301  | ACATCAACGATATGTACACAGAGGGAGATGATGGCCATGGAACATCTCCAAGCCA  | 360  |
| WO2003-016839 | 301  | ACATCAACGATATGTACACAGAGGGAGATGATGGCCATGGAACATCTCCAAGCCA  | 360  |
| REDm          | 361  | TGCTGATGTTCTGTTCAAGAAATCTGCTTCATCTGAAGGTGCAGAAGCACCTG    | 420  |
| WO2003-016839 | 361  | TGCTGATGTTCTGTTCAAGAAATCTGCTTCATCTGAAGGTGCAGAAGCACCTG    | 420  |
| REDm          | 421  | GACTTTCTAAGAAATGATCTGATGACAGCATGTACGATCAATGGCGTGGAGTGC   | 480  |
| WO2003-016839 | 421  | GACTTTCTAAGAAATGATCTGATGACAGCATGTACGATCAATGGCGTGGAGTGC   | 480  |
| REDm          | 481  | GTCTTCAATTTCTCTCCGTACACGATCAGGCTTCGATCAGTGAAGTTCAACCC    | 540  |
| WO2003-016839 | 481  | GTCTTCAATTTCTCTCCGTACACGATCAGGCTTCGATCAGTGAAGTTCAACCC    | 540  |
| REDm          | 541  | AAAGAGTTTCAACCCCTGAGAGAACCGCTGATATGACATCTCTGGACAAACGG    | 600  |
| WO2003-016839 | 541  | AAAGAGTTTCAACCCCTGAGAGAACCGCTGATATGACATCTCTGGACAAACGG    | 600  |
| REDm          | 601  | CTGCCAAGGGCTGTGATCTCCACAGATCTATACATCAGATTCTGCTTCCTTC     | 660  |
| WO2003-016839 | 601  | CTGCCAAGGGCTGTGATCTCCACAGATCTATACATCAGATTCTGCTTCCTTC     | 660  |
| REDm          | 661  | GATCCCATCTACGGCACCGCATGCCCCAGATACATCATCTGGCATCTCGCCCTTC  | 720  |
| WO2003-016839 | 661  | GATCCCATCTACGGCACCGCATGCCCCAGATACATCATCTGGCATCTCGCCCTTC  | 720  |
| REDm          | 721  | CATCAGCCTTTGACTGTTTACTGCTGGCTTACTTCTCTGACTGAAGATTCTC     | 780  |
| WO2003-016839 | 721  | CATCAGCCTTTGACTGTTTACTGCTGGCTTACTTCTCTGACTGAAGATTCTC     | 780  |
| REDm          | 781  | ATGGTGAAATTTTGAGGGCGAGTTCTTCTGAATACCATCAGAAATACAAGATCGCT | 840  |
| WO2003-016839 | 781  | ATGGTGAAATTTTGAGGGCGAGTTCTTCTGAATACCATCAGAAATACAAGATCGCT | 840  |
| REDm          | 841  | TCTATCTGTGCTCCTCCTATATGGTCTATCTGGCTAAGACCCCTGGTCTGATGA   | 900  |
| WO2003-016839 | 841  | TCTATCTGTGCTCCTCCTATATGGTCTATCTGGCTAAGACCCCTGGTCTGATGA   | 900  |
| REDm          | 901  | TACAATTTCTAGCTGACGATATCGCTGCTGGCTCTCTCTGGGAGAGACATC      | 960  |
| WO2003-016839 | 901  | TACAATTTCTAGCTGACGATATCGCTGCTGGCTCTCTCTGGGAGAGACATC      | 960  |
| REDm          | 961  | GCCTAATATGCTGCAAGAGACTGAAGTCAAGATCCCTCAGGATATGGCTGACC    | 1020 |
| WO2003-016839 | 961  | GCCTAATATGCTGCAAGAGACTGAAGTCAAGATCCCTCAGGATATGGCTGACC    | 1020 |
| REDm          | 1021 | GAGACCTGTAGCTGATCTGAGCCCAACGATATGAGCTGAAGAGGGCTCATC      | 1080 |
| WO2003-016839 | 1021 | GAGACCTGTAGCTGATCTGAGCCCAACGATATGAGCTGAAGAGGGCTCATC      | 1080 |
| REDm          | 1081 | GGACCCCTATGCTATATCTCAATGAAGTATGATCAATACCCGGAAGCCCTG      | 1140 |
| WO2003-016839 | 1081 | GGACCCCTATGCTATATCTCAATGAAGTATGATCAATACCCGGAAGCCCTG      | 1140 |
| REDm          | 1141 | GGACCAAGAGAGAAAGGCGAGATTTGCTTCAAGAGCAGATGCTGATGAAGGGTATC | 1200 |
| WO2003-016839 | 1141 | GGACCAAGAGAGAAAGGCGAGATTTGCTTCAAGAGCAGATGCTGATGAAGGGTATC | 1200 |
| REDm          | 1201 | AACAATCCACAGGCCACTAGGGATGCTCTGGACAAGGATGGTGGCTGCACACTGG  | 1260 |
| WO2003-016839 | 1201 | AACAATCCACAGGCCACTAGGGATGCTCTGGACAAGGATGGTGGCTGCACACTGG  | 1260 |
| REDm          | 1261 | CTGGCTATACGACGATACAGATTATCTATGTCTGGATCGGCTGAAAGAGCTATC   | 1320 |
| WO2003-016839 | 1261 | CTGGCTATATACGACGATACAGATTATCTATGTCTGGATCGGCTGAAAGAGCTATC | 1320 |
| REDm          | 1321 | AAGTAATATGCTAGGTGCCCCCTGCTAGTGGATACATGCTTTGACGACCCCT     | 1380 |
| WO2003-016839 | 1321 | AAGTAATATGCTAGGTGCCCCCTGCTAGTGGATACATGCTTTGACGACCCCT     | 1380 |
| REDm          | 1381 | AATATCTCTGATGCCGCGTATGGATCTCCGACGATTTGCTGGTCAATTCCTTC    | 1440 |
| WO2003-016839 | 1381 | AATATCTCTGATGCCGCGTATGGATCTCCGACGATTTGCTGGTCAATTCCTTC    | 1440 |
| REDm          | 1441 | SCCTGTGTCTGCTGGAGCCTGGCAAGACATGACCGAGAAAGATGCGAGGATATATC | 1500 |
| WO2003-016839 | 1441 | SCCTGTGTCTGCTGGAGCCTGGCAAGACATGACCGAGAAAGATGCGAGGATATATC | 1500 |
| REDm          | 1501 | GCCTGAGCTGGTATACATCACTCACTCTGCTGGGCTGCTGCTTTATGACAGCATT  | 1560 |
| WO2003-016839 | 1501 | GCCTGAGCTGGTATACATCACTCACTCTGCTGGGCTGCTGCTTTATGACAGCATT  | 1560 |
| REDm          | 1561 | CCAAAGGCCCAACAGGATATGATGAGAAACGATGAGGGGCTCTTTTGGCTCGG    | 1620 |
| WO2003-016839 | 1561 | CCAAAGGCCCAACAGGATATGATGAGAAACGATGAGGGGCTCTTTTGGCTCGG    | 1620 |
| REDm          | 1621 | CAGGCATATCTAAGCTGTAA                                     | 1641 |
| WO2003-016839 | 1621 | CAGGCATATATCTGCTGTAA                                     | 1641 |

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Fig. 15



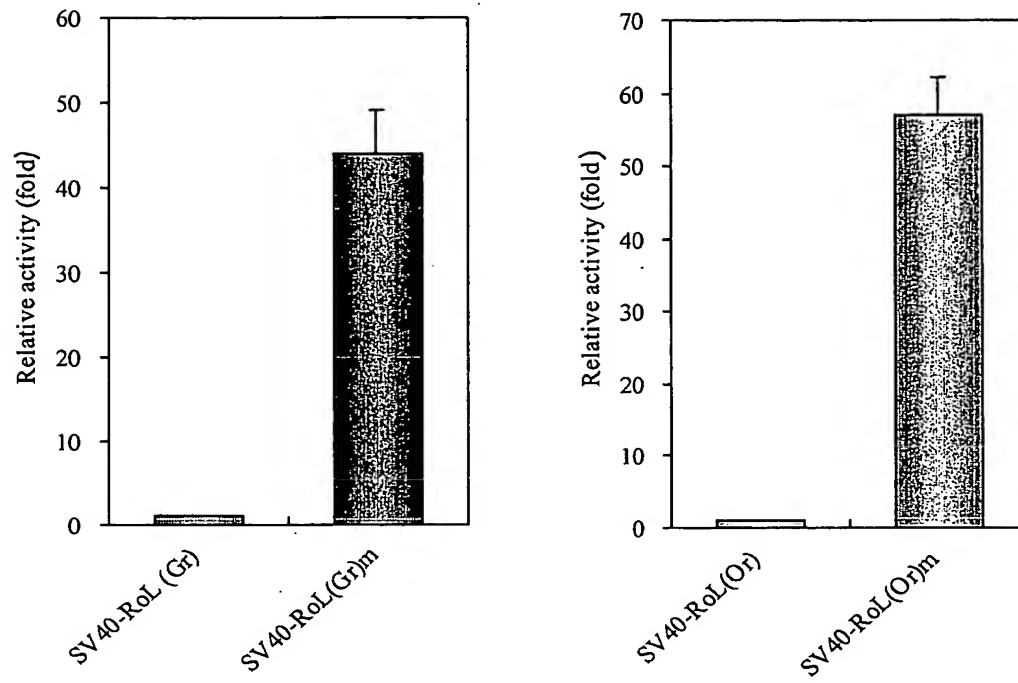
16/22  
Fig. 16



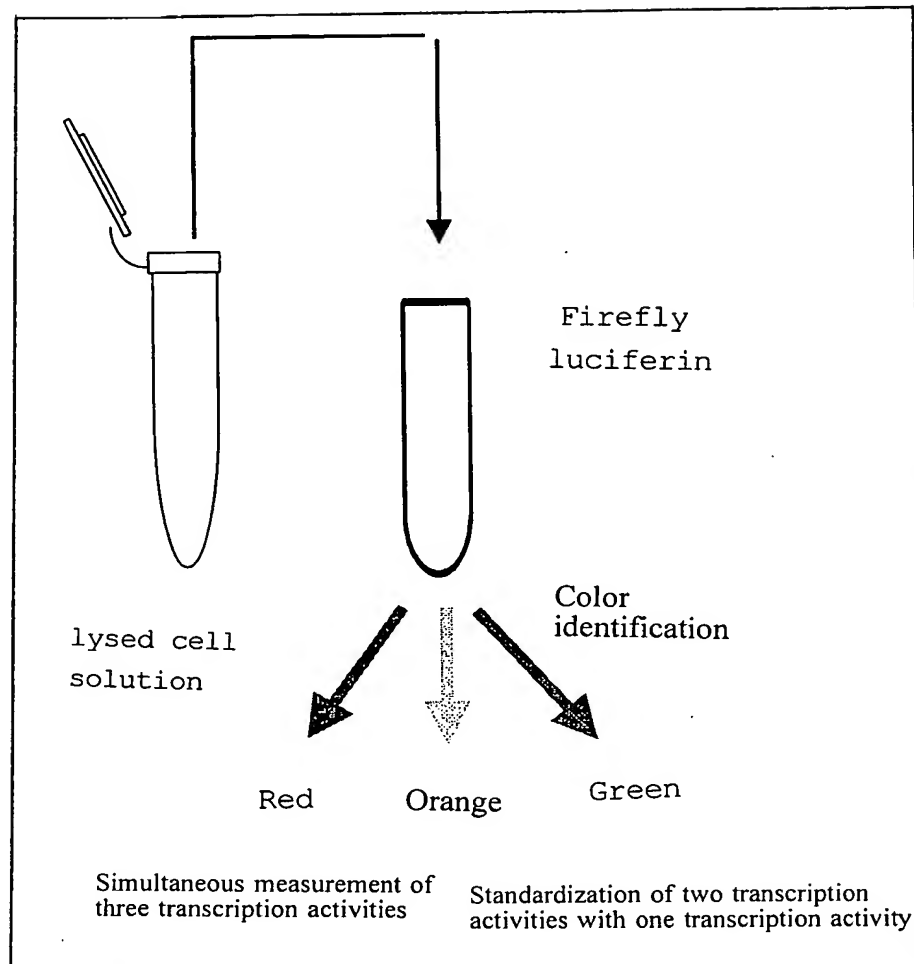


|       |      |   |      |
|-------|------|---|------|
| RoLm  | 1    | ATGCTTAAGATATCATTTCTACAGGAGCCAAATCTGAGACCCCTTGACCTGGGACT      | 60   |
| RoLWT | 1    | ATGCTTAAGATATCATTTCTACAGGAGCCAAATCTGAGACCCCTTGACCTGGGACT      | 60   |
| RoLm  | 61   | GCAGGATTCAATCTTAAGGGCTTTGACAAATTTTCCTTTTAAAGGAGGCCATGATC      | 120  |
| RoLWT | 61   | GCAGGATTCAATCTTAAGGGCTTTGACAAATTTTCCTTTTAAAGGAGGCCATGATC      | 120  |
| RoLm  | 121  | GACGCACACCCGAGGAGTGTGTCTTACCGGACATCTGGGACACAGCTGTGAATG        | 180  |
| RoLWT | 121  | GACGCACACCCGAGGAGTGTGTCTTACCGGACATTTTGGAAACACAGCTGTGAATTA     | 180  |
| RoLm  | 181  | GCTAAATGTCTACGAACTATGGCTTGGCCAAACACAGCTATCTGTGTGCAGCCGAA      | 240  |
| RoLWT | 181  | GCTAAATGTCTACGAACTATGGTATTGGCCAAACACAGCTATCTGTGTGCAGCCGAA     | 240  |
| RoLm  | 241  | AATAGCACATCTTCTTCTACCCCGTATCGCCGCTGTGATATGGGAGTATACCCGC       | 300  |
| RoLWT | 241  | AATAGCACATCTTCTTCTACCCCGTATTCGCCGTGTGTATATGGGAGTATACCCGCA     | 300  |
| RoLm  | 301  | ACCGTAACAGAGCTAACCCGAGGGAGTCTGGGACCTTAAATATCTCAAGCC           | 360  |
| RoLWT | 301  | ACCGTAATATGATAGTTATACCCGAGGGGAAATTTTGGAAACCTTAAATATCTCAAAACCG | 360  |
| RoLm  | 361  | GAAATGTGTCTGCTCAAGAAAGCCATTAATAATGATGGCATGAAPAGGAACGTG        | 420  |
| RoLWT | 361  | GAAATGTGTCTGCTCAAGAAAGCCATTAATAATGATGGCATGAAPAGGAACGTG        | 420  |
| RoLm  | 421  | AATTTATCAAGAGGTGTGTCTGGAGAGAGGAGATATGGGAGAGCCCAAGTGC          | 480  |
| RoLWT | 421  | AATTTATTAAGAGGTAGTACTTTTGGATAGTAAGGAGAGATATGGGAGAGCCCAAGTGT   | 480  |
| RoLm  | 481  | CTAGCAACTTATGGCTGGTATCTGAGCCCAACCTGGACGTAGAAAATTTAAGCCA       | 540  |
| RoLWT | 481  | CTTAGCAACTTATATGGCAGCTATTCTGAGAGCCCAATTTGGACGTAGAAAATTTAAGCCA | 540  |
| RoLm  | 541  | ATGCACTTCTGAGGCAAGAGACAGTGGCTTATATATGTCCTCTCTGGAGACCCGGC      | 600  |
| RoLWT | 541  | CTGCAATTTTATGCTTAAGAGACAGTGGCTTTGATCATGTCTCATCGGAGACACCCGGG   | 600  |
| RoLm  | 601  | CTGCCAAGAGGCTGTGTCTTACCCCAAGGAACCTGAGCGTGGCTTGGTCACTGCAAG     | 660  |
| RoLWT | 601  | CTGCCAAGAGGCTGTGTATACCCATCGAAATTTATGCGTTTGGCTTGGTCACTGCAAG    | 660  |
| RoLm  | 661  | GATCCCTGTTCGGCACAGAACTATCCCTCACTTCATCTCTGATCGTCCCTTC          | 720  |
| RoLWT | 661  | GATCCCTTATTCGGCACAGAACTATCTCTCACTTCGATTTTATCTATCGTTCCTTC      | 720  |
| RoLm  | 721  | CATCAGCGCTTGGAAATGTTCAACCTGTCTATTTATTTAGTGGCTTAGAGTGTGTA      | 780  |
| RoLWT | 721  | CATCAGCGCTTGGAAATGTTCAACCTGTCTATTTATTTAGTGGCTTAGAGTGTGTA      | 780  |
| RoLm  | 781  | CTCTGAAGAGATTCCAGAGAGAAGTTTCTCTAGCACCATTGAAGATCAGAAATCCA      | 840  |
| RoLWT | 781  | TTTACTGAAGAGATTCCAGAGAGAAGTTTCTCTAGCACCATTGAAGATCAGAAATCCA    | 840  |
| RoLm  | 841  | ACAATCGTGTGGCCCTCTCTATGGTGTCTCTGCTAAGAGCCCTTGTGTGATCAG        | 900  |
| RoLWT | 841  | ACTATCGTGTCTGGCCCTCTCTATGGTATCTCTGCTAAGAGCCCTTGTGTGATCAG      | 900  |
| RoLm  | 901  | TACGACTGTCCAGTATAGAGAGTGTGGCCCGGCGCTGTGGAGCCAGAGTT            | 960  |
| RoLWT | 901  | TACGATTTGTCCAGTATAGAGAGTGTCTACCCGTTGGCGACTGTGTGAGTGAAGTG      | 960  |
| RoLm  | 961  | GCATGGCCGTTGCAGAGCGTTGAATTTGGCGGATCCTTCAGGGCTACGGATTGACC      | 1020 |
| RoLWT | 961  | GCATGGCCGTTGCAGAGCGTTGAATTTGGCGGATCCTTCAGGGCTACGGATTGACC      | 1020 |
| RoLm  | 1021 | GATACGTGTGGCCCGTCTATATACCCCTATGACGACGTTAAACAGGTTCTACCGG       | 1080 |
| RoLWT | 1021 | GATACGTGTGGCCCGTATTAATACCCCTATGACGACGTTAAACAGGTTCTACCGG       | 1080 |
| RoLm  | 1081 | AGGGTAGCCCTTACGTCTACGCTAAATGTGTGATCTACCACCGGAATCTCTGGG        | 1140 |
| RoLWT | 1081 | AGGGTAGCCCTTACGTCTACGCTAAATGTGTGATCTACCACCGGAATCTCTGGG        | 1140 |
| RoLm  | 1141 | CTAAATTAAGAGAGGCTAGCTTGTCTTAAGAGTGAATCATATGAAGGGCTATTTCAAC    | 1200 |
| RoLWT | 1141 | CTAAATTAAGAGAGGAGGCTTGTCTTAAGAGTGAATCATATGAAGGGCTATTTCAAC     | 1200 |
| RoLm  | 1201 | AAATACAGCTACGAGAGAGCCATCGAATAGAGAGTGGTTCAATCTGAGAGTGT         | 1260 |
| RoLWT | 1201 | AAATACAGCTACGAGAGAGCCATCGAATAGAGAGTGGTTCAATCTGAGAGTGT         | 1260 |
| RoLm  | 1261 | GGTATATAGACGACGATGGTATTCTCTCGTAGTGTATGCTTAAAGAACTATCAAG       | 1320 |
| RoLWT | 1261 | GGTATATAGACGACGATGGTATTCTCTCGTAGTGTATGCTTAAAGAACTATCAAG       | 1320 |
| RoLm  | 1321 | TACAAGGGTATCAAGTGTGGCCGCTGAGCTGGAGTGGTGGCTTCTACACCTCATCC      | 1380 |
| RoLWT | 1321 | TACAAGGGTATTAAGTATGACCCGCTGAGCTGGAGTGGTGGCTTCTACACCTCATCC     | 1380 |
| RoLm  | 1381 | ATTAAGATGCCCGTGTGAGTGGCGTACCCGACGAGGCTGCTGGAGATCTCCGGTCT      | 1440 |
| RoLWT | 1381 | ATTAAGATGCCCGTGTGAGTGGCGTACCCGACGAGGCTGCTGGAGATCTCCGGTCT      | 1440 |
| RoLm  | 1441 | TGATATGTTCTCCAGAGAGAGAGCTTACTGACAGAGATATATGACTATATGCC         | 1500 |
| RoLWT | 1441 | TGATATGTTCTCCAGAGAGAGAGAGCTTACTGACAGAGATATATGACTATATGCC       | 1500 |
| RoLm  | 1501 | GATGAGTGTCTCCAGAGAGAGAGCTTACTGAGAGAGAGTGTCTTCTGTTGATATCTCT    | 1560 |
| RoLWT | 1501 | GATGAGTGTCTCCAGAGAGAGAGAGCTTACTGAGAGAGAGTGTCTTCTGTTGATATCTCT  | 1560 |
| RoLm  | 1561 | AAAGGCGTACAGAGAGTGGTGAAGAGAGCTTACGAACTTCTGCTCAGAAGAA          | 1620 |
| RoLWT | 1561 | AAAGGCGTACAGAGAGTGGTGAAGAGAGCTTACGAACTTCTGCTCAGAAGAA          | 1620 |
| RoLm  | 1621 | TCAAATCTTAA   | 1632 |
| RoLWT | 1621 | TCAAATCTTAA   | 1632 |

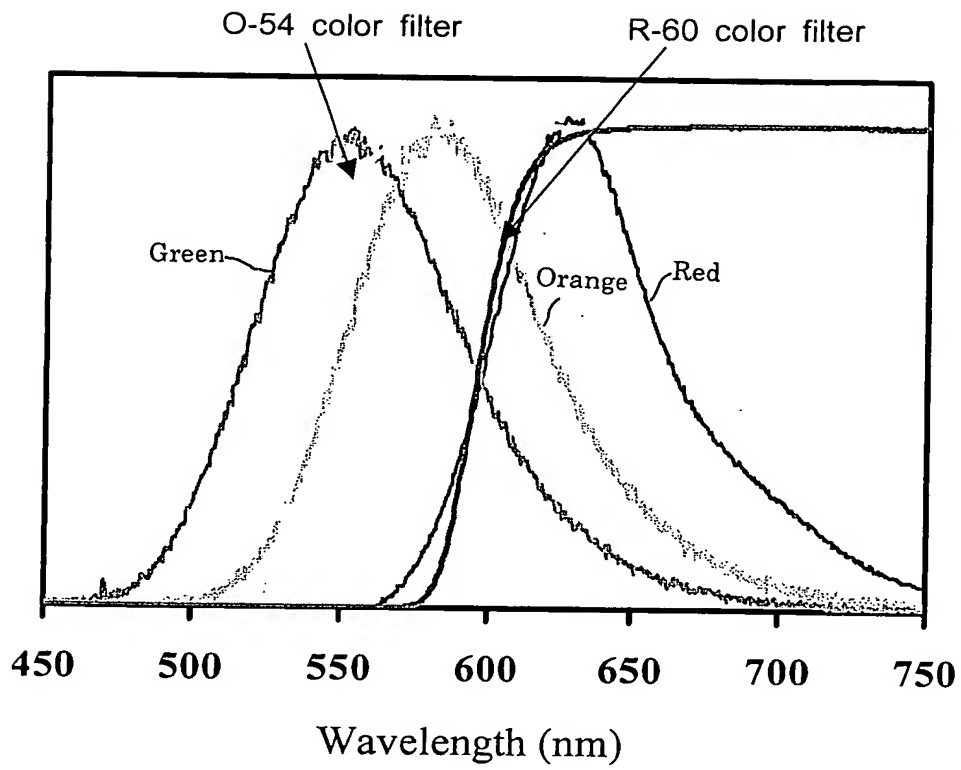
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Fig. 18



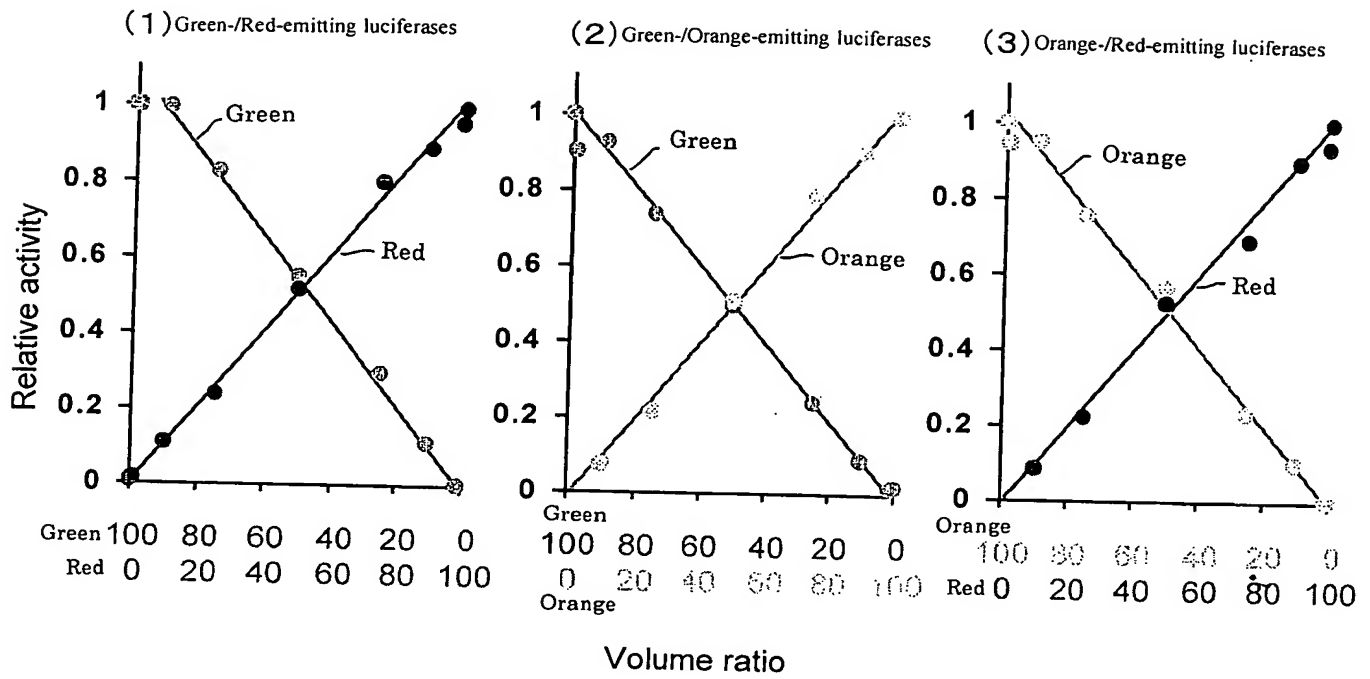
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Fig. 19



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Fig. 20



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Fig. 21



22/22  
Fig. 22

